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KILYK & BOWERSOX, P.L.L.C.
400 HOLIDAY COURT
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WARRENTON, VA 20186

EXAMINER
LIEW, ALEX KOK SOON

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<table>
<tr><td rowspan="2"><i>Office Action Summary</i></td><td>Application No.
10/689,755</td><td>Applicant(s)
SAEKI, KAZUHITO</td></tr>
<tr><td>Examiner
ALEX LIEW</td><td>Art Unit
2624</td></tr>
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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>11 August 2008</u>.

2a)☐ This action is **FINAL**.　　2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-11 and 13-21</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-11 and 13-21</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All　b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

1.   The amendment filed on 8/11/08 is entered and made of record.

2.   Response to Applicant's Arguments

I.   On page 9, the applicant stated: "Claim 1 features an element setting unit for selectively setting a plurality of window elements in the edge window, an example of which can be seen in FIG. 1 of the present application. This is very different from the gradient vector calculator and the neighborhoods of Yamagata. As described in Yamagata, the gradient vector calculator determines a center pixel for each neighborhood of pixels. *See* column 7, line 60 through column 8, line 4. As will be appreciated, the gradient vector calculator is not setting an edge window, rather, it is determining a center pixel for a neighborhood of pixels (A, B, and C). See FIGS. 4A-4B. As will be fully explained below, the Examiner is asserting that the neighborhoods (A, B, and C) are the equivalent of two components of claim 1."

The examiner does not agree. Yamagata does not determine center pixels, but *selects* center pixels (column 7, lines 60-62) and these center pixels is the center of the areas A-C. Each of the area is read as a window element in the claimed invention.

II.   On page 9, the applicant stated: "The edge window has a height equal to the height of the plurality of window elements. Neither Yamagata nor Tsuchiya et al. teach or suggest such as apparatus comprising such features." The examiner agrees. In an updated search the examiner found Chatterjee (US pat no 5,701,179) to read on edge window set by the edge window setting unit has a height that is equal to the height of each of the plurality of window elements (figure 8, 81 is read as edge window and 82s

are the window elements). One skilled in the art would have the edge window the same

height as the window elements because the object edges in the image covers the entire

height of the edge window, then window element of the same height as the edge

window is needed to provide accurate edge detection.

III.   On pages 10 and 11, the applicant argued Tsuchiya does not disclose "…

window elements are capable of mutually overlapping in the width direction of the edge

window." The examiner disagrees; Tsuchiya discloses such feature taught in figure 20,

under Org Graphic Pattern, where the two window elements overlap with one another.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1, 4, 5 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Yamagata '222 in view of Tsuchiya '766 and Chatterjee '179.

With regards to claim 1, Yamagata discloses an image processing apparatus

comprising

an edge window setting unit for an edge window for detecting edges of an image

(see column 8 lines 5 – 7, the gradient vector calculator find potential edges in image

and find areas candidate shown in figure 4A);

an element setting unit for selectively setting a plurality of window elements in the

one edge window set by said edge window setting unit (see figure 4A, there are

windows placed on the edges of the images labeled areas A, B and C)

an edge detection unit for scanning each of the window elements and obtaining

edges every each the window element (see column 8 lines 63 to 67 and figure 4B) and

a calculation unit for obtaining an edge related information from the edges detected by

said detection unit (see figure 2, element 3).

Yamagata does not disclose the window elements are capable of mutually overlapping

in the width direction of the edge window. Tsuchiya discloses window elements are

capable of mutually overlapping in the width direction of the edge window (see figure

20, on the top picture the two window elements overlaps each other). One skilled in the

art would include step of overlapping window elements because to prevent missing any

corner edges to improve edge detection process. Tsuchiya also disclose imaging a

workpiece shown in figure 1 in element 1.

Yamagata and Tsuchiya do not teach edge window set by the edge window setting unit

has a height that is equal to the height of each of the plurality of window elements.

Chatterjee read on edge window set by the edge window setting unit has a height that is

equal to the height of each of the plurality of window elements (figure 8, 81 is read as

edge window and 82s are the window elements). One skilled in the art would have the

edge window the same height as the window elements because the object edges in the image covers the entire height of the edge window, then window element of the same height as the edge window is needed to provide accurate edge detection.

With regards to claims 4 and 5, see the rationale and rejection for claim 1.

With regards to claim 13, Yamagata discloses element setting unit sets the number of window elements and width of each window element (see figure 4A and 4B, three window elements are set and the width is 5 pixels).

3.   Claims 2, 3, 6 and 7 – 11 are rejected under U.S.C. 103(a) as being unpatentable over Yamagata '222 in view of Tsuchiya '766 and Chatterjee '179 as applied to claim 1 further in view of Lopez (US pat no 6,148,117).

With regards to claim 2, Yamagata discloses all the limitations discussed in claim 1, but does not disclose having user select parameter of filtering process. Lopez suggests having the operator select various parameters such as resolution and sharpening coefficients (see column 6 lines 40 to 45) and these the size of the filters maybe selected from a group of filters of different sizes (see column 7 lines 2 to 9). One skilled in the ordinary art would include having the user select a filter kernel size because to have user experiment with the different sizes to find the filter which produces the best result and allows a user to create the exact desired effect.

With regards to claim 3, Yamagata discloses a image processing apparatus as defined in claim 1, wherein said element setting unit sets the plurality of window elements based on a distance between adjacent window elements (see figure 2, 2, the gradient calculator detects candidates of edge region and a window is placed over them), but does not have the user selects the location to place each window. Lopez suggests having the operator select various parameters (see column 6 lines 40 to 45). The combination of Yamagata and Lopez disclose the claimed invention of claim 3. One skilled in the ordinary art would have the user select where to place the window because the gradient calculate may extract false edges that will result is error, having an operator to place the window may prevent errors.

With regards to claim 6, see the rationale and rejection for claim 2.

With regards to claim 7, see the rationale and rejection for claim 3.

With regards to claim 8, Yamagata and Tsuchiya disclose all the limitations of claim 1; Yamagata discloses a image processing apparatus of claim 1, wherein said plurality of window elements has a width and there is a distance between the beginning of each said window elements, wherein said width and said distance are assigned automatically inside said edge window (see figure 4A and 4B, there is a distance between window element A and B), but does not have the user selects the location to place each

window. Lopez suggests having the operator select various parameters (see column 6

lines 40 – 45). The combination of Yamagata and Lopez disclose the claimed invention

of claim 3. One skilled in the ordinary art would have the user select where to place the

window because the gradient calculate may extract false edges that will result is error,

having an operator to place the window may prevent errors.

With regards to claim 9, Yamagata discloses an image processing apparatus of claim 1,

wherein when said element setting unit sets the plurality of window elements inside said

edge window, a setting is performed so that the window elements are always present in

one end and the other end of the edge window (see figure 6B, 15r and 15l are the two

end of the edge window).

With regards to claim 10, see the rationale and rejection for claim 8.

With regards to claim 11, see the rationale and rejection for claim 9.

4.   Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Yamagata '222 in view of Tsuchiya '766 and Chatterjee '179 as applied to claim 1

further in view of Kobayasi (US pat no 5,136,661).

With regards to claim 14, Yamagata and Tsuchiya disclose all the limitations of claim 1,

but do not disclose edge window comprises two opposing ends and the element setting

unit arranges the window elements at both ends of the edge window. Kobayasi

discloses window comprises two opposing ends and the element setting unit arranges

the window elements at both ends of the edge window (see figure 3H). One skilled in

the art would arrange window elements at both ends of an edge window because to

detect the number of pins in an integrate circuit to improve edge detection method.

5.   Claims 15-18 are rejected under U.S.C. 103(a) as being unpatentable over

Yamagata '222 in view of Tsuchiya '766, Chatterjee '179 and Lopez '117.

With regards to claim 15, see the rationale for claims 1 and 2.

With regards to claim 16, see the rationale for claim 1.

With regards to claim 17, Yamagata discloses element setting unit sets the number of

window elements and width of each window element (see figure 4A and 4B).

With regards to claim 18, see the rationale for claim 1.

6.   Claim 19 is rejected under U.S.C. 103(a) as being unpatentable over Yamagata

'222 in view of Tsuchiya '766, Chatterjee '179 and Lopez '117 as applied to claim 15

further in view of Kobayasi '661.

With regards to claim 19, see the rationale and rejection for claim 14.

7.   Claims 1, 4, 5 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Yamagata '222 in view of Chatterjee '179.

With regards to claim 1, Yamagata discloses an image processing apparatus

comprising

        an edge window setting unit for an edge window for detecting edges of an image

(see column 8 lines 5 – 7, the gradient vector calculator find potential edges in image

and find areas candidate shown in figure 4A);

        an element setting unit for selectively setting a plurality of window elements in the

one edge window set by said edge window setting unit (see figure 4A, there are

windows placed on the edges of the images labeled areas A, B and C);

        an edge detection unit for scanning each of the window elements and obtaining

edges every each the window element (see column 8 lines 63 to 67 and figure 4B) and

a calculation unit for obtaining an edge related information from the edges detected by

said detection unit (see figure 2, element 3); and

        window elements are *capable* of mutually overlapping in the width direction of the

edge window (the processor 104 in figure 1, is capable to be programmed to overlap

window units).

Yamagata does not teach edge window set by the edge window setting unit has a

height that is equal to the height of each of the plurality of window elements. Chatterjee

read on edge window set by the edge window setting unit has a height that is equal to

the height of each of the plurality of window elements (figure 8, 81 is read as edge

window and 82s are the window elements). One skilled in the art would have the edge

window the same height as the window elements because the object edges in the

image covers the entire height of the edge window, then window element of the same

height as the edge window is needed to provide accurate edge detection.

With regards to claims 4 and 5, see the rationale and rejection for claim 1.

With regards to claim 13, Yamagata discloses element setting unit sets the number of

window elements and width of each window element (see figure 4A and 4B, three

window elements are set and the width is 5 pixels).

8.   Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Yamagata '222 in view of Shimazaki (US pat no 5,058,176) and Do (US pat no

6,941,007).

With regards to claim 20, Yamagata discloses an image processing apparatus

comprising

an edge window setting unit for an edge window for detecting edges of an image

(see column 8 lines 5 – 7, the gradient vector calculator find potential edges in image

and find areas candidate shown in figure 4A);

an element setting unit for selectively setting a plurality of window elements in the

one edge window set by said edge window setting unit (see figure 4A, there are

windows placed on the edges of the images labeled areas A, B and C);

an edge detection unit for scanning each of the window elements and obtaining

edges every each the window element (see column 8 lines 63 to 67 and figure 4B) and

a calculation unit for obtaining an edge related information from the edges detected by

said detection unit (see figure 2, element 3); and

window elements are *capable* of mutually overlapping in the width direction of the

edge window (the processor 104 in figure 1, is capable to be programmed to overlap

window units).

Yamagata does not teach having user select a width of each window element.

Shimazaki discloses having user select width of a window (column 2, lines 40-47). One

skilled in the art would include having user select width of window because user able to

determine where edges begin and end, so it would not miss any edges improving

recognition of object. Yamagata and Shimazaki do not disclose having user select a

distance from a start coordinate of a first window element to a start coordinate for each

additional window element. Do discloses having user select a distance from a start

coordinate of a first window element to a start coordinate for each additional window

element (see claim 9 and figures 9a-9e, additional windows are placed by the user

manually, 316 is read as the width). One skilled in the art would include having user

place individual window elements on to an image because user sees the locations of

edge accurately, placing such windows at such location, improves edge detection

further improving recognition of object in image.

With regards to claim 21, Do discloses element setting unit sets the plurality of window

elements based on the distance between the start coordinates of adjacent elements

(figure 9e, 310a is the starting coordinate and 310b is the start coordinate at adjacent

coordinate)

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to ALEX LIEW whose telephone number is (571)272-8623

or cell (917)763-1192. The examiner can be reached anytime.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Matthew Bella can be reached on (571) 272-7778. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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12/4/08